

10/537421  
JC17 Rec'd PCT/PTO 02 JUN 2005

DISHWASHING MACHINE

The invention relates to a dishwashing machine provided with a door which is arranged in such a way that it is pivotable around the horizontal axis thereof.

Dishwashing machines provided with a door which is arranged in such a way that it is pivotable around the horizontal axis thereof and which is opened for loading and unloading are known. This pivotally mounted door is generally embodied in a dishwashing machine such that it is opened so far for loading and unloading that the inner side of the door facing the treatment compartment, the washing container, is aligned substantially horizontally so that a lower crockery basket can be received. For this purpose the lower crockery basket advantageously has rollers or wheel devices on its underside which are guided over special rails or beads in the inside of the door. After the door has been completely opened out, i.e., until the door is aligned substantially horizontally and the lower crockery basket has rolled out, this can be loaded and unloaded relatively conveniently. Such a widely opened door represents a potential hazard, especially if a dishwashing machine thus opened is located in a dark room, for example a kitchen.

It is the object of the invention to provide a dishwashing machine of the type specified initially which represents no increased potential hazard even when the door is opened wide.

This object is solved by the dishwashing machine according to the invention having the features of claim 1. Advantageous embodiments of the invention are characterised in the dependent claims.

The inventive arrangement of the dishwashing machine according to the invention provided with a door which is arranged in such a way that it is pivotable around the horizontal axis thereof, has a switch arranged on the door and is embodied in such a way that it generates an electric signal when a pivoting angle defined by the opened door is reached.

During daily use of a household appliance provided with a door which is arranged in such a way that it is pivotable around the horizontal axis thereof, said appliance is used differently according to the personal habits of the user. Whereas some users always keep the pivotally mounted door closed and merely open it for loading and unloading, other people only lock the pivotally mounted door during the program run and leave the door ajar and unlocked for the rest of the time. Even if the mechanical locking installation and the door seals of present-day household appliances are designed for lifetime usage, some people avoid continuously locking the door if no program is running. Another reason for not locking can be that the door can be opened more quickly for loading if it is not locked. Another reason for not locking may be that odours can escape. Also moisture can easily escape from the interior of the household appliance without the door being pivoted out so far that it represents a potential hazard.

With the dishwashing machine according to the invention, it is possible for a switch to generate an electric signal only when a certain pivoting angle defined by the opened door is reached, which signal for example switches on a light source which illuminates the interior of the dishwashing machine. Thus, with the dishwashing machine according to the invention it is also possible to leave the door ajar and unlocked,

according to the personal habits of the user, without a light source being switched on in the interior of the dishwashing machine.

5 Likewise it is also possible not only to switch on a light source which illuminates the interior of the dishwashing machine but also, or instead of the interior of the dishwashing machine, to illuminate a crockery basket located on the opened door.

10

The dishwashing machine according to the invention thus has the advantage that a light source is always switched on when the door is pivoted out so far that it can be a potential hazard but no light is switched on  
15 if the pivoting angle is small. Another advantage of the present invention is that the user of the household appliance, when entering the unlit kitchen carrying items to be placed in the household appliance for example, need not switch on the room light expressly  
20 for this purpose for loading the household appliance but merely after putting down the items and opening the household appliance, has sufficient light to be able to load the household appliance.

25 In a further embodiment of the invention it is advantageous to generate an acoustic signal in addition to switching on a light source.

The switch is advantageously arranged in the door so  
30 that no problems with sealing with respect to the washing container are to be expected.

The invention provides a dishwashing machine of the type specified initially which presents no increased  
35 potential hazard even when the door is wide open.

The invention is explained subsequently with reference to the exemplary embodiment shown in the drawings. In the figures:

5 Figure 1 is a dishwashing machine according to the invention with the door pivoted out horizontally and

Figure 2 is a dishwashing machine according to the invention with the door unlocked and ajar.

10

Figure 1 shows a dishwashing machine 1 according to the invention where a crockery basket 3 is arranged on its door 2 which is mounted in such a way that it is pivotable about a horizontal axis not shown. In this  
15 state a switch 4 is activated and has switched on a light source 5 arranged in the interior 6 of the dishwashing machine 1. The switch 4 can be connected to a control unit 7 which for its part is connected to the light source 5 and controls its state. The control unit  
20 7 is more appropriately connected to an electronic program control, in the exemplary embodiment shown, a program controller of the dishwashing machine.

A suitable switch 4 for the dishwashing machine 1  
25 according to the invention is an inclination switch which is constructed so that it switches on from a certain inclination and switches off when the inclination is removed. The pivoting angle is determined at the factory so that the switch 4 located  
30 in the door switches on only when the door is deflected by more than 10° for example. However, it may also be appropriate to switch on the switch 4 at a smaller pivoting angle.

35 It is especially advantageous if, in addition to the light source 5, a signal transmitter 8 connected to the control unit 7 is provided. The acoustic signal

transmitter 8 generates an acoustic signal which sounds after the pivotally mounted door 2 has remained open for a certain time, for example after 30 minutes, as a reminder that the door 2 is open.

5

Figure 2 shows the dishwashing machine 1 with its pivotable door 2 inclined such that the switch 4 is not activated. In this position steam can easily escape from the interior of the dishwashing machine without the door 2 being pivoted

10

out so far, however, that it represents a potential hazard.

15

The dishwashing machine 1 according to the invention thus has the advantage that a light source 5 is always switched on when the door 2 is pivoted out so far that it can represent a potential source of danger but when the pivoting angle of the door 2 is small, no light is switched on. Also the user of the household appliance, when entering the unlit kitchen carrying items to be placed in the household appliance for example, need not switch on the room light expressly for this purpose for loading the household appliance but merely after putting down the items and opening the household appliance, has sufficient light to be able to load the household appliance.

20

25

30

The invention provides a dishwashing machine 1 provided with a door 2 which is arranged in such a way that it is pivotable around a horizontal axis thereof, which also presents no increased potential hazard when the door is wide open.

35